



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

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CRUISE REPORT¹

VESSEL: *Oscar Elton Sette*, Cruise SE-08-06 (SE-63)

CRUISE PERIOD: July 10–30, 2008

AREA OF OPERATION: Main Hawaiian Islands, specifically southwest of Kauai, at Penguin Banks and west of the Big Island of Hawaii (Figs. 1–3).

TYPE OF OPERATION: In support of a Pacific Islands Fisheries Science Center (PIFSC) research project to conduct cetacean surveys, make ecosystem observations, and deploy short-term monitoring tags (d-tags) on target species.

ITINERARY:

July 10 Embarked scientists Chapla, Nowacek, Dawe, Bendlin, Ü, Yoshinaga, Thorne, Tyson, Herman, McGregor, Gornik, Ligon, and Blevins. Departed Honolulu at 1000. Transited to the Kauai coastline.

July 11–13 Arrived at the southwestern Kauai coast and conducted cetacean observations. Conducted conductivity-temperature-depth (CTD) casts at the beginning and end of surveys. Transited to Penguin Banks.

July 14 Arrived at Penguin Banks and conducted cetacean survey. Conducted CTD casts at the beginning and end of survey. Transited to the Kona Coast of the Big Island.

July 15–20 Arrived at the west coast of the Big Island of Hawaii and conducted cetacean observations. Conducted tagging operations. Conducted CTD casts at the beginning and end of surveys. Conducted expendable bathythermograph (XBT) casts at tagging locations.

July 17 Transited to area off Honokohau Harbor and disembarked Nowacek, Blevins, and Tyson and embarked Rivers and Wiener at 0800. Conducted tag recovery operation for Robin Baird (CRC). Returned to area off Honokohau Harbor and embarked Friedlaender and Southall at 1730.

¹ PIFSC Cruise Report CR-08-010
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- July 19 Disembarked Ligon to Cascadia Research Collective (CRC) vessel (“Wild Whale”) by PIFSC steel toe.

- July 21-22 Transited to area off Honokohau Harbor and disembarked Friedlaender, Ü, Southall, and Rivers at 0830. Conducted missing tag search. Recovered tag at 1750 on July 22.

- July 23 Transited to area off Honokohau Harbor and embarked Ü at 0800. Conducted cetacean surveys and fisheries acoustics transect. Conducted CTD casts at the beginning of the survey and the beginning and end of the fisheries acoustic transect.

- July 24-28 Conducted cetacean surveys and fisheries acoustics. Conducted CTD casts at the beginning and end of the surveys.

- July 25 Conducted tracking operations of two b-probe tags deployed by Robin Baird (CRC). Recovered one tag.

- July 26 Conducted acoustic search for second b-probe tag beginning at 0400. Transited to area off Honokohau Harbor and disembarked Dawe, Wiener, and Yoshinaga. Embarked Graham, VanAtta, and Yuen. Continued recovery operation of second b-probe.

- July 29 Conducted CTD casts at stations from south to north along the coast. Conducted XBT casts between stations. Departed for Honolulu at 1800.

- July 30 Arrived Honolulu at 1300.

MISSIONS AND RESULTS:

- A. Deploy and recover suction-cup tags (d-tags) on cetaceans in the waters off of the Kona Coast of the Big Island to assess movements in relation to habitat parameters and exposure to operational sounds produced during Navy exercises.
 - 1. Five d-tags were successfully deployed and recovered on individual pilot whales during five different days (July 15–20) off the west coast of the Big Island.
 - 2. Tagging operations were conducted during the time period of Navy exercises, but operational areas were separated by approximately 100 nautical miles.
 - 3. XBT casts were conducted at tagging sites (at the time of tagging).
 - 4. Fisheries acoustics transects were conducted at some tagging sites both day and night (July 23–28).
 - 5. CTD casts were conducted at tagging sites (July 29).

- B. Collect line-transect data on cetaceans to develop detection functions for species present in the study area.
 - 1. Modified line transect surveys were conducted off southwest coast of Kauai and the west coast of the Big Island.
 - 2. Eighty-nine groups of cetaceans were detected visually, including pilot whales, melon-headed whales, sperm whales, false killer whales, rough-toothed dolphins, pantropical spotted dolphins, spinner dolphins, and a single Blainville's beaked whale.
- C. Collect biopsy samples for genetic studies of cetacean population structure, if possible.
 - 1. Biopsy samples were collected from seven pilot whales and two bottlenose dolphins using crossbow and Ceta-darts. Additionally, two skin samples were collected from the suction cups of the tagged pilot whales.
- D. Collect photo-ID data on cetaceans for cetacean population structure and abundance, if possible.
 - 1. Over 22GB of cetacean photos were obtained for ongoing population discrimination studies.

**SCIENTIFIC
PERSONNEL:**

Marie Chapla, Chief Scientist, Joint Institute for Marine and Atmospheric Research (JIMAR), Research Corporation of the University of Hawaii (RCUH)
Chad Yoshinaga, Chief Scientist, Pacific Islands Fisheries Science Center (PIFSC), National Marine Fisheries Service (NMFS)
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Ari Friedlaender, Cooperating Scientist, Duke University
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Douglas Nowacek, Cooperating Scientist, Duke University
Andrea Bendlin, Cooperating Scientist, Contractor
Adam Ü, Cooperating Scientist, JIMAR
Kiya Gornik, Cooperating Scientist, JIMAR
Allan Ligon, Cooperating Scientist, Contractor
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Elia Herman, Cooperating Scientist, Duke University
Reny Tyson, Cooperating Scientist, Florida State University
Anna McGregor, Cooperating Scientist, Duke University
Carlie Wiener, Cooperating Scientist, Hawaii Institute of Marine Biology, RCUH
Julie Rivers, Cooperating Scientist, Commander U.S. Pacific Fleet
Rachael Blevins, Intern, PIFSC, NMFS
Krista Graham, Cooperating Scientist, Pacific Islands Regional Office (PIRO), NMFS
Alecia VanAtta, Cooperating Scientist, PIRO, NMFS
Michelle Yuen, Cooperating Scientist, PIRO, NMFS

Submitted by: (/s/George Antonelis) for _____
Marie Chapla
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Approved by: (/s/Samuel G. Pooley) _____
Samuel G. Pooley
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Attachments:

Figures: 1-3 On effort tracklines of the *Oscar Elton Sette*
Appendix: Principal data collected during the cruise

Figures

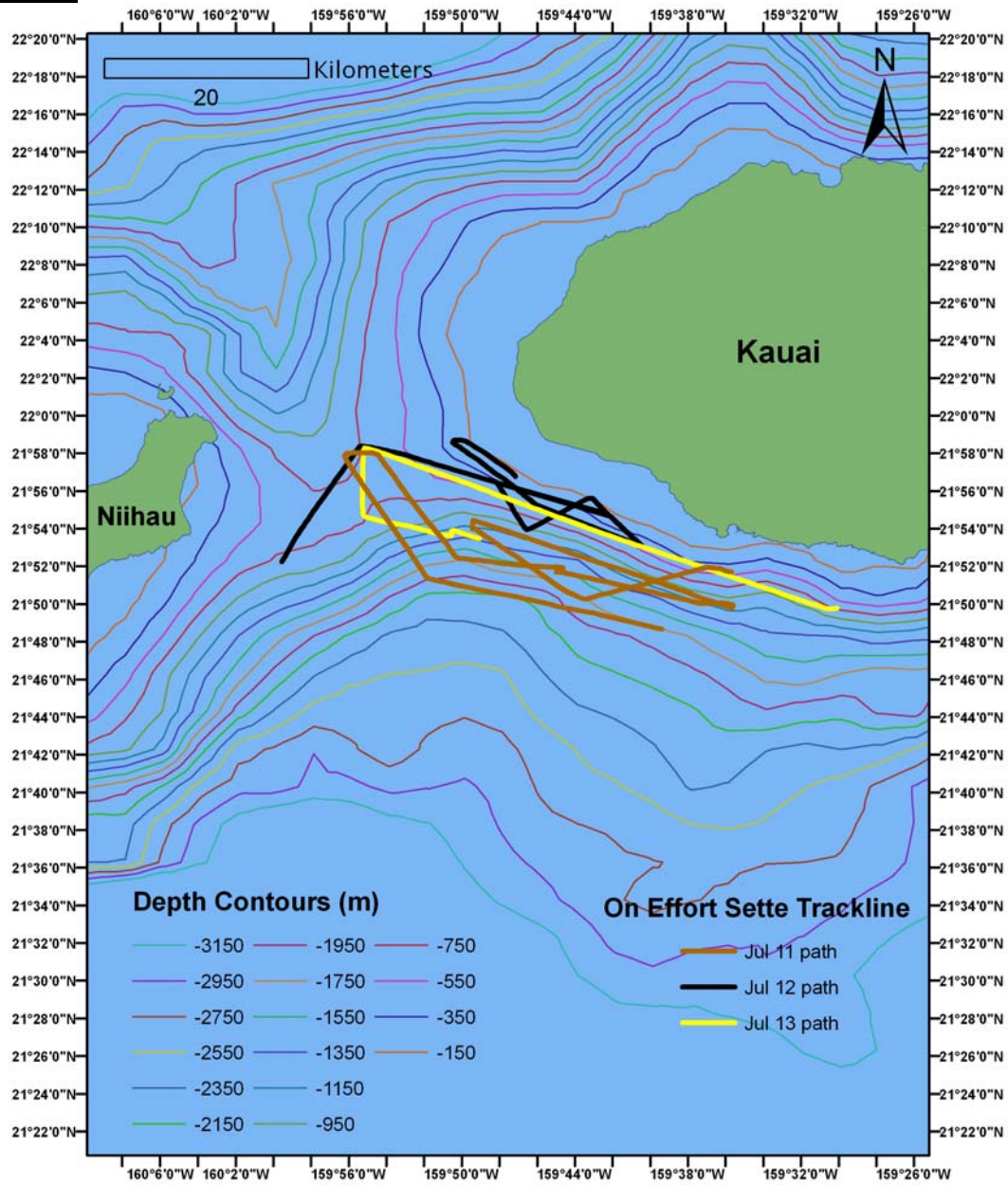


Figure 1.--Trackline of the *Oscar Elton Sette* during cetacean visual observations off Kauai (July 11–13, 2008).

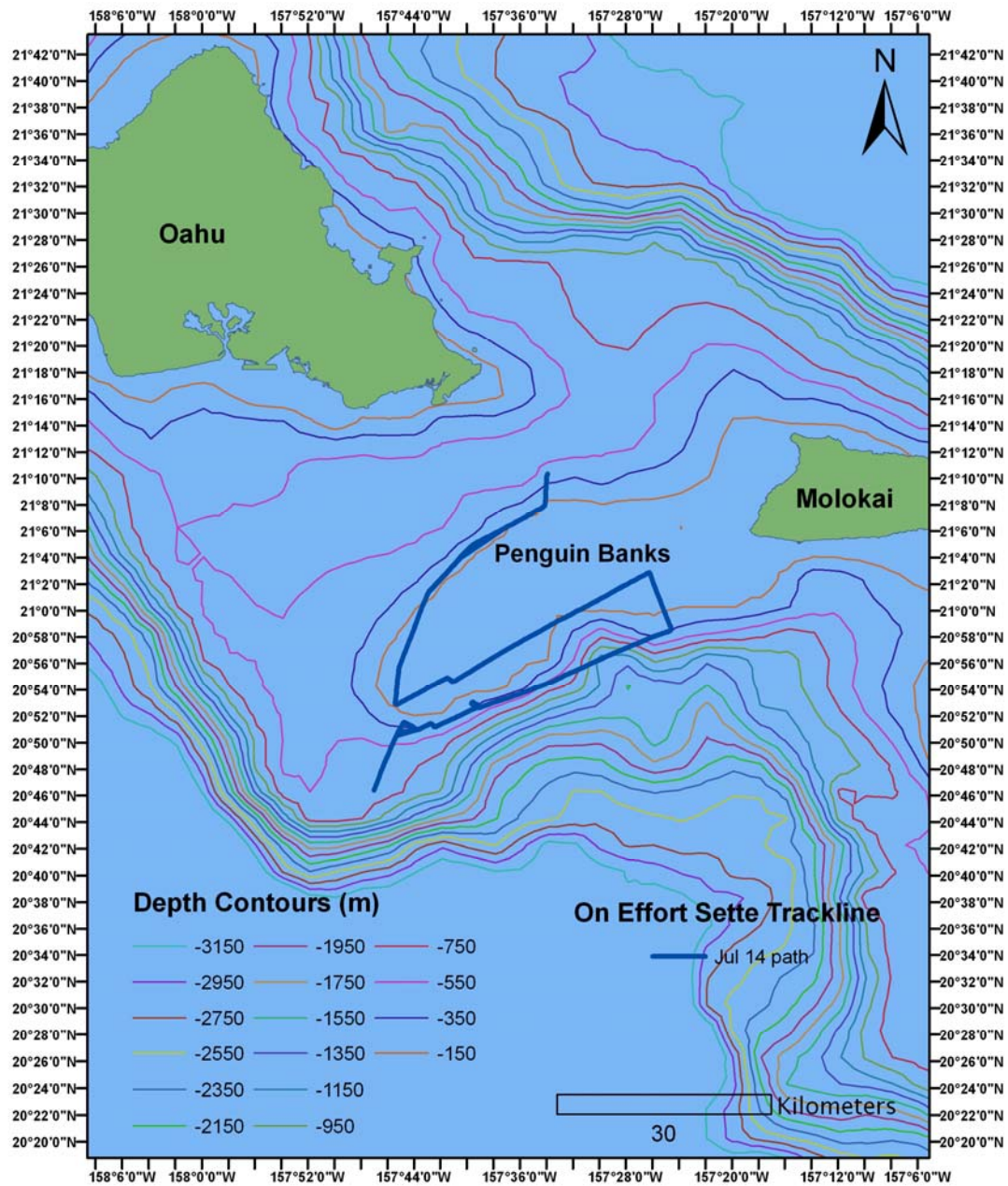


Figure 2.--Trackline of the *Oscar Elton Sette* during cetacean visual observations at Penguin Banks (July 14, 2008)

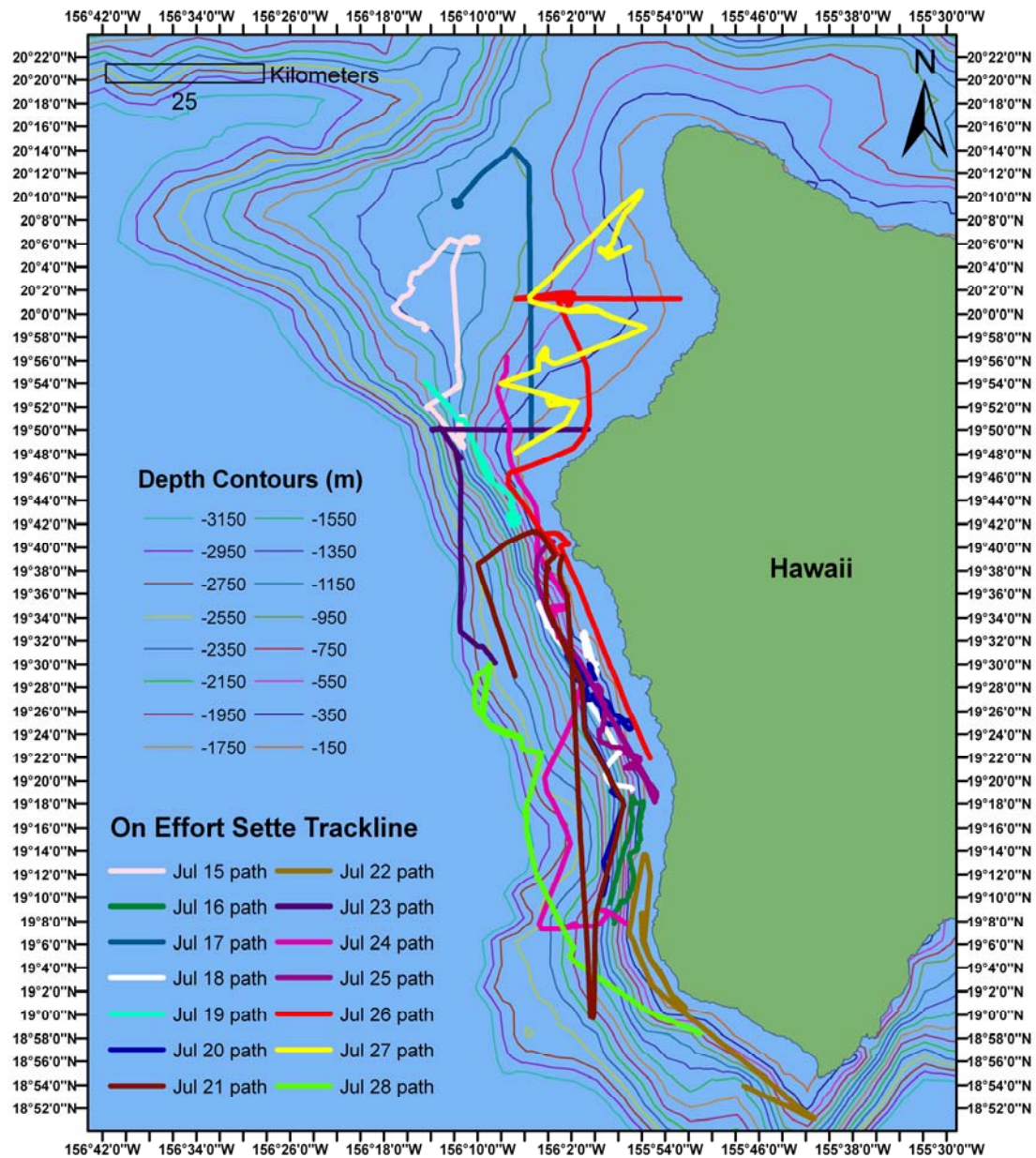


Figure 3.--Trackline of the *Oscar Elton Sette* during cetacean visual observations and tagging operations off the west coast of the Big Island of Hawaii (July 15–28, 2008)

Appendix: Principal Data Collected during Cruise SE-08-06

1. Cetacean Observations
 - a. Species
 - b. Group size estimates
 - c. Lat./long. position
 - d. Environmental (sea state, wind)
 - e. Photos taken (when possible)
 - f. CTD casts at beginning/end (when possible)
 - g. Biopsy samples (when possible)
2. Tagging Operations
 - a. Species
 - b. Photo of tagged animal
 - c. Tag frequency
 - d. Tag on/off/recovery time
 - e. Position of tag on animal
 - f. Reaction of tagged/other individuals
 - g. Lat./long. location of tagging
 - h. XBT cast at tagging sight
3. Other
 - a. Fisheries acoustics backscatter
 - b. CTD stations at tagging locations (conducted July 29)
 - c. XBT between CTD stations (July 29)
 - d. Sea surface temperature
 - e. Acoustic Doppler current profiler
 - f. Depth (when not tracking a tagged animal)